emtricitabine/rilpivirine/tenofovir
(em-tri-si-ti-been/ri-lip-i-vir-een/te-noe-fo-veer)

Classification
Therapeutic: antiretrovirals
Pharmacologic: nucleoside reverse transcriptase inhibitors, non-nucleoside reverse transcriptase inhibitors

Pregnancy Category: B

Indications
Management of HIV infection, a complete regimen for treatment-naïve adults.

Action
Emtricitabine—Phosphorylated intracellularly where it inhibits HIV reverse transcriptase, resulting in viral DNA chain termination.
Rilpivirine—Inhibits HIV-replication by non-competitively inhibiting HIV reverse transcriptase. Tenofovir—Phosphorylated intracellularly where it inhibits HIV reverse transcriptase resulting in disruption of DNA synthesis.

Therapeutic Effects:
Slowed progression of HIV infection and decreased occurrence of sequelae.

Pharmacokinetics

**emtricitabine**
Absorption: Rapidly and extensively absorbed; 95% bioavailable.
Distribution: Unknown.
Metabolism and Excretion: Some metabolism, 86% renally excreted, 14% fecal excretion.
Half-life: 1.5h.

**rilpivirine**
Absorption: Well absorbed following oral administration.
Distribution: Unknown.
Protein Binding: 93.7%
Metabolism and Excretion: Mostly metabolized by the liver (CYP3A enzyme system). 2% excreted in urine unchanged, 98% excreted in urine as metabolites.
Half-life: 90h.

**tenofovir**
Absorption: Well absorbed following oral administration.
Distribution: Unknown.
Protein Binding: 99.7%
Metabolism and Excretion: Mostly metabolized by the liver (CYP3A enzyme system). 25% excreted in urine unchanged, 75% excreted in urine as metabolites.
Half-life: 17–31h.

TIME/ACTION PROFILE (blood levels)

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>emtricitabine PO</td>
<td>Rapid</td>
<td>1–2 hr</td>
<td>24 hr</td>
</tr>
<tr>
<td>rilpivirine PO</td>
<td>Unknown</td>
<td>4–5 hr</td>
<td>24 hr</td>
</tr>
<tr>
<td>tenofovir PO</td>
<td>Unknown</td>
<td>2 hr</td>
<td>24 hr</td>
</tr>
</tbody>
</table>

* when taken with food

Contraindications/Precautions
Contraindicated in: Drugs that may significantly increase rilpivirine levels (may 

use caution with lopinavir/ritonavir, atazanavir/ritonavir); Concurrent use of other antiretrovirals; CCr <50 ml/min; Lactation: HIV-infected patients should not breastfeed.

Use Cautiously in: History of suicidal ideation or depression; History of pathologic fractures/osteoporosis/bone loss.

Adverse Reactions/Side Effects

**Combines GI: nausea/vomiting, GU: renal impairment, MS: bone density.**

**Misc:** Post-treatment immune reconstitution responses, lactic acidosis, severe hepatotoxicity, immune reconstitution syndrome.

**Pregnancy Category: B**
ripivirine

CNS: insomnia, headache.

emtricitabine/tenofovir

CNS: abnormal dreams, depression, dizziness, fatigue, headache, insomnia, GER.

Interactions

Drug-Drug: May ↑ risk of nephrotoxicity with other nephrotoxic drugs, avoid if possible. CYP3A4 inducers/inhibitors may ↓ effectiveness or ↑ risk of adverse reactions. Strong CYP3A4 inducers should be avoided including carbamazepine, debrisoquine (more than a single dose), oxcarbazepine, phenobarbital, phenytoin, rifabutin, rifampin or rifapentine. Proton pump inhibitors including esomeprazole, lanoprazole, pantoprazole and rabeprazole may ↓ gastric pH and may affect requirements for T3-G. May alter requirements for methadone maintenance. Blood levels and risk of adverse effects may be increased with rifabutin, rifampin, and rifapentine administered at least 2 hr before or 4 hr after. Blood levels and effectiveness may be ↓ in H1-receptor antagonists including cimetidine, famotidine, metoclopramide, nizatidine; administer at least 12 hr after or 4 hr before. Concurrent use of calcium channel blockers that ↑ risk of torsade de Pointes may ↑ risk of serious arrhythmias. May alter requirements for methadone maintenance. Blood levels and risk of adverse effects may be ↓ by clarithromycin, erythromycin and troleandomycin; consider alternatives in an alternative regimen.

Drug-Natural Products: St. John’s wort may ↓ blood levels and effectiveness; concurrent use should be avoided. A similar effect occurs with antacids including aluminum hydroxide, magnesium hydroxide and calcium carbonate: administer at least 2 hr before or 4 hr after. Blood levels and effectiveness may be ↓ by H2-receptor antagonists including famotidine, nizatidine and ranitidine; administer at least 12 hr after or 4 hr before. Concomitant use of omeprazole or lansoprazole may ↓ blood levels and effectiveness; concurrent use should be avoided including esomeprazole, famotidine, nizatidine and omeprazole.

Dosage

PO (Adults): 2 tablets once daily.

NURSING IMPLICATIONS

Assessment

- Monitor for change in severity of HIV symptoms and for symptoms of opportunistic infections during therapy.

- Monitor closely for notable changes in behavior that could indicate the emergence or worsening of suicidal thoughts or behavior.

- Monitor bone mineral density in patients who have a history of pathologic bone fractures or are at risk for osteoporosis or bone loss.

- Lab Test Considerations: Monitor renal and GFR regularly during therapy.

- Assess for latent herpes simplex virus (HSV). Complera® is not approved for administration in patients with HSV and HBV.

- Monitor liver function tests before and periodically during therapy, especially in patients with underlying liver disease or marked transaminase values. May cause severe hepatotoxicity, including fulminant hepatitis, liver failure and death.

- Lactic acidosis may occur with hepatic toxicity causing hepatic steatosis; may be fatal, especially in women.

- Calculate CO2 prior to therapy. Monitor CO2 and serum phosphorus periodically during therapy.

Potential Nursing Diagnoses

Risk for infection (Indications)

Noncompliance (Patient/Family Teaching)

Implementation

- PO: Administer once daily with a meal. Arsenic drugs do not replace a meal.

Patient/Family Teaching

- Emphasize the importance of taking CompleraTM as directed, at the same time each day. Do not take more than prescribed amount and do not skip taking without consulting health care professional. Take missed doses with a meal if more than 12 hr from time dose is usually taken; then return to regular schedule. If more than 12 hr from time dose is usually taken, omit dose and resume dosing schedule; do not double doses. Advise patient to read Patient Information prior to starting therapy and with each Rx refill in case of changes.

- Advise patient to take antacids 2 hr before or 4 hr after, antiparasitics 12 hr before or 4 hr after

- Inform patient that CompleraTM should not be shared with others.

- Inform patient that CompleraTM does not cure HIV or prevent associated opportunistic infections. Ripivirine does not reduce the risk of transmission of HIV to others through sexual contact or blood contamination. Caution patients not to engage in sex or to avoid sharing needles or devices to prevent spreading the AIDS virus to others. Advise patients that the long term effects of CompleraTM are unknown at this time.

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CONTINUED
emtricitabine/rilpivirine/tenofovir

- Advise patient to notify health care professional immediately if symptoms of lactic acidosis (nausea, vomiting, unusual or unexpected stomach discomfort, and weakness) occur.
- Inform patients and families of risk of suicidal thoughts and behavior and advise that behavioral changes, emergency or worsening signs and symptoms of depression, unusual changes in mood, or emergence of suicidal thoughts, behavior, or thoughts of self-harm should be reported to health care professional immediately.
- Immune reconstitution syndrome may trigger opportunistic infections or autoimmune disorders. Notify health care professional if symptoms occur.
- May cause dizziness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.
- Advise patient in non-healthy care professional of all HIV or OTC medications, vitamins, or herbal products being taken and to consult with health care professional before taking other medications, especially St. John’s wort.
- Inform patient that changes in body fat (increased fat in upper back and neck, breasts, and around back, chest, and waist area; loss of fat from legs, arms, and face) may occur.
- Advise patients to notify health care professional if pregnancy is planned or suspected. Advise patient to avoid breast feeding during Complera therapy. Encourage women to enroll in Antiretroviral Pregnancy Registry by calling 1–800–258–4263.
- Emphasize the importance of regular follow-up exams and blood counts to determine progress and monitor for side effects.

Evaluation/Desired Outcomes
- Delayed progression of AIDS and decreased opportunistic infections in patients with HIV.
- Decrease in viral load and increase in CD4 cell counts.

Why was this drug prescribed for your patient?

- ✔ Generic name
- ★ Genetic Implication
- OPTIKS indicate bi-discerning, underline indicate most frequent
- Discontinued